Primary Central Nervous System Lymphoma

Treatment and nursing management of immunocompetent patients

Kurt David, MS, RN, CNS, AOCNS®, BMTCN®, and Mary Elizabeth Davis, DNP, RN, CHPN®, AOCNS®

BACKGROUND: Primary central nervous system lymphoma (PCNSL) is a rare primary brain tumor. Because of its rarity and the increasing incidence rates as the U.S. population ages, it is important for nurses to understand the unique needs of patients and their caregivers during the disease continuum.

OBJECTIVES: This article provides an overview of the treatment and nursing management of immunocompetent patients with PCNSL.

METHODS: An extensive examination of the current literature, including incidence, diagnosis, treatment, and implications for nursing, was performed.

FINDINGS: Nurses play a vital role in caring for patients with PCNSL and addressing their unique needs. Nurses should concentrate on early recognition and comprehensive management of neurologic symptoms. This includes patient and caregiver education and diligent implementation of treatment strategies, as well as maximizing quality of life.

KEYWORDS
primary central nervous system lymphoma; side effects and management; nursing role

DIGITAL OBJECT IDENTIFIER
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PRIMARY CENTRAL NERVOUS SYSTEM LYMPHOMA (PCNSL) is an aggressive form of extranodal non-Hodgkin lymphoma. It is rare, accounting for only 2%–4% of all central nervous system (CNS) tumors (Han & Batchelor, 2017; Ostrum et al., 2016). Patients with PCNSL present with disease involving the brain, cerebrospinal fluid (CSF), leptomeninges, spinal cord, and/or eyes with no evidence of disease outside the CNS. Unlike primary brain tumors, such as glioblastoma, PCNSL responds to chemotherapy and radiation therapy, with treatment responses as high as 90% (Schaff & Grommes, 2018). Knowledge of the clinical presentation is vital because misdiagnosis promotes treatment delays and can affect prognosis (Rubenstein et al., 2013). Treatment modalities include chemotherapy, radiation therapy, hematopoietic stem cell transplantation (HSCT), and supportive treatment with palliative intent (National Comprehensive Cancer Network [NCCN], 2020). Although PCNSL is a potentially curable disease, there is a high likelihood of relapse, and prognosis after recurrence is poor (Lukas, Stupp, et al., 2018; Mendez & Grommes, 2018; Schaff & Grommes, 2018). The neuro-oncology nurse plays a vital role in all phases of a patient's disease trajectory, including diagnosis, treatment, and end-of-life care.

Background

About 1,500 patients are diagnosed with PCNSL in the United States annually (Mendez & Grommes, 2018). Men develop the disease at a slightly, but significantly, higher incidence than women, as do White and Hispanic Americans as compared to Black Americans (Lukas, Stupp, et al., 2018). There was a dramatic increase in the incidence of PCSNL from the early 1980s to the mid-1990s, most likely because of the HIV/AIDS epidemic, because immunodeficiency is an established risk factor for PCNSL (Mendez & Grommes 2018). Along with those infected with HIV, patients with autoimmune diseases and those taking immunosuppressant medications after bone marrow or organ transplantation are at increased risk. With increasingly effective antiviral therapies, the incidence among those with HIV is